Technical Note No. 9
Management - Coastal Plain

Asheville, N. C.
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APPALACHIAN FOREST EXPERIMENT STATION

Effects of a Light Fire on Loblolly Pine Reproduction

Knowledge of the death rate of trees and reproduction following forest fires is essential to plans for damage appraisals. Results obtained from examinations of a burned over stand of loblolly pine reproduction are here presented.

The area studied was cut over selectively four years before the fire. Reproduction ranging from 0.1 to 8 feet in height, and averaging 2 feet, was tallied just before the fire and three times during the ensuing growing season on eight .01 acre plots. The fire, set accidentally, burned over the entire area, about 10 p.m. in late November. Since there was little wind and the humidity was high the fire was quite light. This was further evidenced by the fact that no foliage was brewned at points over 15 feet above ground.

The following table shows the progress of mortality after the fire:

Ht. Ft.	Stand before fire	% Mortality - Cumulative after fire			Stand 50 weeks after fire
	No. Trees	7 wks.	26 wks.	50 wks.	No. Trees
0-0.5	38	100	--	--	
0.6-1.5	65	88	100	--	
2	104	42	100	--	
3	54	43	96	98	1
4	31	32	93	93	2
5	12	25	75	75	3
6	1	--	--	--	
Total	305	58	98	98	6

Here two things are strikingly evident: (1) mortality of reproduction is very high, even with a very light fire; (2) mortality continued for more than six weeks after the fire.

Results might be very different under different conditions and at different seasons but under conditions similar to those studied it would be advisable to postpone damage appraisals until approximately 3 months after fire, or to make allowance for continued mortality.